What is claimed is:

1. A method of manufacturing a cylinder liner blank for an internal combustion engine including a cylinder block having at least one cylinder bore, the method comprising the steps of:

providing a cylindrical tube of predetermined dimensions which is formed from a carbon alloy steel starting material;

placing the cylindrical tube into a hydraulic press and cold forging the cylindrical tube into a cylinder liner blank, the cylinder liner blank comprising a liner body with cylindrical sidewalls which define an internal diameter, an external diameter, a cylindrical lower extent and an upper flanged region which is integrally formed in the cold forging process.

2. The method of claim 1, wherein the flanged region of the cylinder liner blank extends radially outwardly relative to the external diameter of the cylindrical sidewalls of the cylinder body so as to define a stop shoulder, the stop shoulder being cooperatively received in abutting relation to a mating surface defined by the cylinder bore of the internal combustion engine.

3. The method of claim 3, wherein the cylinder liner blank is formed from a carbon alloy steel having a carbon content of at least about 0.25%.

4. The method of claim 3, wherein the cylinder liner blank is formed from a carbon alloy steel having a carbon content of at least about 0.50%.

5. The method of claim 3, wherein the cylinder liner blank if formed from a 1055 carbon alloy steel.

6. The method of claim 3, wherein the cylinder liner blank has an internal diameter in the range from about 3 to 8 inches.

7. A method of manufacturing a cylinder liner for a diesel engine including a cylinder block having at least one cylinder bore, the method comprising the steps of:

providing a cylindrical tube which is formed from a carbon alloy steel starting material and dimensioning the cylindrical tube to form an unforged cylinder liner blank of predetermined starting dimensions;

placing the unforged cylinder liner blank into a hydraulic press, the hydraulic press having a forging die set with a die cavity for receiving the unforged cylinder liner blank and an upper, flange cavity of greater relative diameter than the die cavity;

closely fitting a forming mandrel within the internal diameter of the cylinder liner blank within the forging die set;

applying a hydraulic force to the cylinder liner blank in the forging die set to thereby cold form an integral flanged region on the cylindrical sidewalls of the cylinder liner blank at an upper extent thereof; and

finish machining the forged cylinder liner blank to form a cylinder liner.

8. The method of claim 6, wherein the flanged region of the cylinder liner extends radially outwardly relative to the external diameter of the cylindrical sidewalls of the cylinder body so as to define a stop shoulder, the stop shoulder being cooperatively received in abutting relation to a mating surface defined by the cylinder bore of the internal combustion engine.

9. The method of claim 7, wherein the cylinder liner blank is formed from a carbon alloy steel having a carbon content of at least about 0.25%.

10. The method of claim 7, wherein the cylinder liner blank is formed form a carbon alloy steel having a carbon content of at least about 0.50%.

11. The method of claim 7, wherein the cylinder liner blank if formed from a 1055 carbon alloy steel.

12. The method of claim 7, wherein the cold forging step includes applying 500 to 1,000 tons of hydraulic force to the cylinder liner blank to cause the carbon alloy steel to flow into the flange cavity to form the flanged region of the cylinder body.

13. The method of claim 7, wherein the upper extent of the cylinder liner blank is heated with induction heating in the range of about 1200°F to reduce stress during the cold forging process and enable an increased production life for the hydraulic die set and forming mandrel.

14. A method of assembling an internal combustion engine having a cylinder block and at least one cylinder bore, the method comprising the steps of:

locating a cylinder liner in a concentrically disposed location within the cylinder bore and secured to the cylinder block, the cylinder liner being prepared in a manufacturing process by:

providing a cylindrical tube formed from carbon alloy steel of predetermined starting dimensions;

dimensioning the cylindrical tube to form an unforged cylinder liner blank;

placing the cylinder liner blank into a hydraulic press and cold forming the cylinder liner blank into a forged cylinder liner blank, the forged cylinder liner blank comprising a liner body with cylindrical sidewalls which define an internal diameter, an external diameter, a cylindrical lower extent and an upper flanged or upset region which is integrally formed in the cold forging process;

finish machining the forged cylinder liner blank to form a finished cylinder liner; and

wherein the flanged region of the finished cylinder liner extends radially outwardly relative to the external diameter of the cylindrical sidewalls of the cylinder body so as to define a stop shoulder, the stop shoulder being cooperatively received in abutting relation to a mating shoulder defined by the cylinder bore of the internal combustion engine.

15. The method of claim 14, wherein the internal combustion engine is a diesel engine and wherein the cylinder body has an internal diameter in the range from about 3 to 8 inches.

16. The method of claim 14, wherein the cylinder liner blank is a carbon alloy steel having a carbon content of at least about 0.50%.

17. The method of claim 16, wherein the cylinder liner blank is formed of 1055 carbon alloy steel.